

CLAIMS

What is claimed is:

1. An injection unit for an injection molding machine, comprising:
 - a plasticizing barrel;
 - a plasticizing screw received in the plasticizing barrel;
 - an electromotive rotary drive for driving the plasticizing screw to rotate about a rotation direction, said rotary drive being supported for joint movement with the plasticizing screw in relation to the plasticizing barrel in direction of an injection stroke;
 - an electromechanical injection stroke drive for longitudinal movement of the plasticizing screw and the rotary drive to execute the injection stroke, wherein the plasticizing screw, the rotary drive and the injection stroke drive are disposed in coaxial relationship;
 - a linear guide connected to a machine bed for guiding a longitudinal movement of the injection stroke drive and the plasticizing screw; and
 - a housing shell constructed for torsional stiffness and accommodating the rotary drive for movement in the direction of the injection stroke, wherein the plasticizing barrel and the injection stroke drive are connected by the housing shell in a tension-proof manner and supported via the housing shell on the linear guide for longitudinal movement.

2. The injection unit of claim 1, wherein the housing shell is configured to have at least one portion which is closed in cross section to form a hollow carrier.
3. The injection unit of claim 1, and further comprising a guide assembly for guiding the movement of the rotary drive in longitudinal direction, said guide assembly extending in symmetry to and in a common plane with a central axis of the injection unit.
4. The injection unit of claim 3, wherein the guide assembly includes guideways securely fixed to the housing shell for guiding the rotary drive.
5. The injection unit of claim 3, wherein the guide assembly includes guideways connected to the machine bed, said rotary drive being moveably supported by the guideways independently from the housing shell.
6. The injection unit of claim 1, wherein the injection drive includes a motor housing which is formed by the housing shell, and a rotary motor which is fitted in the motor-housing-forming housing shell, and a screw mechanism is operatively connected with the rotary motor.
7. The injection unit of claim 3, and further comprising a roller bearing assembly for supporting the housing shell on the linear guide.

8. The injection unit of claim 5, wherein the housing shell is movably supported on the guideways via a roller bearing assembly.
9. The injection unit of claim 4, wherein the rotary drive is movably supported on the guideways via a roller bearing assembly.